

Client:
Fitchburg Center

Design & Construction By:
Tension Span Structures Pty Ltd

Project Status:
Completed October 2003

Project Size:
385 sq.m (4,144 sq.ft)

Pavilion on the Prairie

A tension membrane structure of a sloping conical form, externally supported by tubular steel frame and perimeter braced columns.

The "Agora" Pavilion was conceived as a gathering place for community activities, social and cultural, and farmers' markets. The client had tried movable tent structures, which proved inadequate, and the design was developed to meet clear span and aesthetic requirements.

Few if any tension structures have been built in Wisconsin, and the structure was designed for 90mph wind and 35 psf snow loads. The analysis involved modelling of slid and packed snow.

The 'A' frame uses a well placed 'kink' in the plane to minimize bending at the attachment points. The steel is hot dip galvanised and polyurethane coated. Fittings and fasteners are either galvanised (pins) or stainless steel, and stainless steel fittings are used on all guy cables.

The apex cone is vented and the frame splices detailed to fit within the tube diameters to give a neat appearance.



1. Agora Pavilion on Prairie
2. Snow load tested
3. Shading 300 guests
4. Prairie swale